

~~TOP SECRET FROTH~~~~TOP SECRET FROTH~~IV. ENIGMA WIRINGS

## A. Unsteckered Enigmas

[In listing wheel wirings, the various Enigma machines have been arbitrarily classed according to certain characteristics; the grouping is by no means intended to be definitive. Wheel wirings, as ordinarily given by sources, are with the rings set at letter A. The letters "r" and "l" represent "right" and "left", indicating the direction of the flow of current through the wheels.]

The appendices comprise four documents of interest from TICOM sources. Indices to all wiring sequences and individual machines begin on page 219. Source of material is given with the discussion of each machine. A full list of these sources starts on page 209.]

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ENIGMA WIRINGS

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Name of Machine: COMMERCIAL ENIGMA

Sources: (These are listed under the various types)

The Commercial Enigma is known to have been sold widely prior to 1935. It was used by several governments. Some of these countries rewired the wheels for greater security. Presumably because of its different usages it has been named simply Commercial, A-Commercial, D-Commercial, and K. A serial number prefixed by A without an additional suffix denotes a standard Army machine as issued to the German Army, Air Force, and the SS. In addition, there are various types with the Greek letters Alpha and Delta suffixed to the serial number, e.g., A-246176a. These were standard machines returned to Heimsöeth & Rinke (manufacturers of the machines) for special re-wiring. The purpose or destination of these machines is unknown. One machine included in this report has the letter S suffixed to its serial number.

Basically, the machine has three single-notched wheels, and six wheel orders. The reflector is settable and the endplate sequence is fixed. (All Commercial type Enigmas dealt with at ISK had the QWERTZU input). The three wheels are wired differently and are usually distinguished by the numbers I, II, and III. Each wheel has one notch in its ring so placed that wheel I steps at position E, wheel II at N, and III at Y. The rotatable reflector is moved mechanically, but can be set at any one of 26 positions by hand. The wheels and reflector each have clip position devices (Ringstellung). When the several clip positions are known, a definite setting of the wheels is determined by noting which letter of each ring appears in the window situated in the cover of the machine. The letters are read from left to right starting with the reflector.

This discussion deals with Enigmas in the following order: A types, Swiss, D, K, and those named simply Commercial Enigmas.

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ENIGMA WIRINGS

Name of Machine: A (OLD COMMERCIAL)

Source: 6b (p. 1-3)

These wheels were sold on the commercial market. They were marked A by the manufacturers. At one time the Swiss used this Enigma, and it is believed that they rewired the wheels (but not the reflector) twice in the passage of years.

The reflector on this machine, in addition to being used on the Swiss rewired models, is also used on the Spanish Naval Attache machine and on the Coast Guard 3-N Enigma.

These two wirings were obtained from the U.S. Army Signal Corps. The reflector is the same as for the old commercial machine. Apparently the Swiss rewired the three wheels but not the reflector. No information is available as to notches; they are presumed to be the same as for the old commercial.

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ENIGMA WIRINGS

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Name of Machine: A (OLD COMMERCIAL)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors: (Paper strip wiring)

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1. H R W Y I P C G V X L A F U J B K O D T S M Z N Q E

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
S E W Y M G D L O I U B T X K V J P A F Z C N H R Q

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
L V A D Z P C G Y B H X Q S U E T K F I J W M O R N

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: "A" or OLD COMMERCIAL

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
 (Keyboard)

Rotors:

I. r. A B C D E F G H I J K L / M N O P Q R S T U V W X Y Z  
 1. L P G S Z M H A E O Q K V X R F Y B U T N I C J D W

II. A B C D E F G H I J K L M N O P Q R / S T U V W X Y Z  
 S L V G B T F X J Q O H E W I R Z Y A M K P C N D U

III. A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z  
 C J G D P S H K T U R A W Z X F M Y N Q O B V L I E

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
 I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

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Note on Swiss and Hungarian Enigmas:

The Swiss Army from time to time rewired the wheels of the Enigma. These wirings were not on file with their manufacturer, Heimsöeth & Rinke. The Hungarians also used wirings not on file there. The Swiss did their own wiring; the Hungarians, who were connected with Konski and Krueger, changed the wirings on the Enigma wheels after the women working for them had left the shop, so their wirings did not agree with the Konski and Krueger records.

The following pages include many Swiss wirings; no Hungarian ones were found.

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ENIGMA WIRINGS

Name of Machine: SWISS ARMY ENIGMA (A-766)

Source: 6a (p. 1, 24, 26-27); 8 (p. 2); 12 (p. 24-26); 34 (p. 216 ff.)

From the equivalent wiring of the two outside wheels, as recovered by the U.S. Coast Guard, the U.S. Signal Corps identified these wheels as the actual ones furnished in the old commercial Enigma machine (lot A-766); the U.S. Navy later identified the traffic as that of the Swiss Army. The wheel order used for this traffic, with respect to the numbers on the actual wheels, was 1, 3, 2 (left to right as one faces the machine). No notches are indicated.

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ENIGMA WIRINGS

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Name of Machine: SWISS ARMY ENIGMA (A-766)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

Outside      A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
              E S M J R U O A H Z D Q B P V G L F I T N X W Y K C

Second        A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
              W Z A N D F I E C M R U Q G T X P S Y O H J L V K B

2 Inner  
(combined)    A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
              Y I Z E D R P O B T W S U Q H G N F L J M X K V A C

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

Source: 6a (p. 1-2, 4, 24-27); 12 (p. 1, 3, 22, 24-26); 50 (p. 1-4);  
60 (p. 1, app.)

Following this account are schematic and derived wirings of the Swiss Enigma as used on the SZD or INDIGO system. The machine employed is a commercial type Enigma with specially wired wheels and turnover mechanism on the ring. The wheel order is apparently a completely random series of the six variations. The reflector is not interchangeable.

The only variable element in the SZD system from August 1942 to October 1944, except for a double encipherment occurring in 1944, was the periodic change every eight to nine months of the rotors. The first three wirings were used from August 1942 through 6 April 1943 (a duplicate of this wiring, not included here, had different turnovers as follows: Red wheel: E/F, Blue wheel: X/Y, and Green wheel: N/O. This wiring corresponds to ringsetting AAAA. A on the right side of the wheel - normal sequence - is connected to A on the left side of the wheel - mixed sequence).

The second three wirings were used from 7 April 1943 through 31 December 1943; the third three from 1 January 1944 to 1 February 1945. The new wirings have all been adapted from GC&CS wirings in which the British Z or 26 is equivalent to American A or 1. This necessitates the conversion of all exchanged information in order to eliminate the discrepancy. In all these changes the endplate sequence and the reflector wiring have remained constant for each wheel, that is, wheel I: Y/Z, wheel II: E/F, wheel III: N/O.

The fourth routine change of wheel wiring for the SZD system took place on 1 February 1945. The last three Swiss wirings given here are effective for that date. One equivalent wheel was recovered on 3 April, the other two on successive days. It was established that no change had been made in the reflector. This apparently represents the first Swiss Enigma wiring and perhaps the first Enigma wiring of any kind recovered by the Signal Security Agency.

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA

(SZD - First recovered wiring August 1942 - 6 April 1943)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors: (schematic wiring)

Red      A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
          Z N L X V G P U S D B I F Y M Q E C O A R T J H K W

Blue     A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z  
          E B R K S U D V A W I J M Z H L C G T P Y N F O X Q

Green    A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z  
          G C A O N S H K R J Z V P X W Q F T D U E I L B M Y

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
            I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

(SZD - First recovered wiring August 1942 - 6 April 1943)

**Endplate Sequence:**

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

**Rotors:** (derived from schematic wiring)

Red I      A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            B N P D F U L G I X Z S V C O K Y W M A J H R T Q E

Blue II     A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            W Z J Q I G X F A E S R O B T P Y U H L C N V M D K

Green III   A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            U Y A M N I T Q J R B F L D E K V H X G W S P Z O C

Reflector: A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            S O W H Y U V J A C I K Z B D E P T Q X F G L M R N

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA

(Wiring specifications derived from schematic wiring)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

I. 1. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
r. H A N X B W T F S G L U I Z M Y C E P D V O K R J Q

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
S N G C R T V I W Y B H D F O L X P Q M J E A U K Z

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
Y Q B N M P H J V S L O X W C E T R F U A K G I Z D

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
S N R M L G F X Q T P E D B Z K I C A J V U Y H W O

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Page 52 ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

(SZD - 2d recovered wiring 7 April 1943 - 31 December 1943)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors: (schematic wiring)

Brown I    A B C D E F G H I J K L M N O P Q R S T U V W X Y / Z  
            J Q G E K F O C R I A D L Y S Z M P W U V B X N T H

Purple II    A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z  
              B U A Q Y H E S P R V Z I N K D L X C T O W M J G F

Orange III    A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z  
               O A N C K Y T I X V Q R Z B S F W U L M P G E J H D

Reflector:    A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
               I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA

(SZD - 2d recovered wiring 7 April 1943 - 31 December 1943)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors: (derived from schematic wiring)

Brown I    A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            R K U W Q V M Y J S A X P C I B O L E G F Z D N H T

Purple II    A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
              Z G A K C T W I L J F B S N Q X P D Y H M E O R U V

Orange III    A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
               M A N Y Q C H S D F K J B Z I V E G P O L U W R T X

Reflector: A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            S O W H Y U V J A C I K Z B D E P T Q X F G L M R N

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

(Wiring specifications derived from schematic wiring)

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

I. 1. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
r. QLNEIGHCMSZJUDKOWARBYVXPTF

II. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
YPWJFQZHTRXSGNEKMDOVCBULIA

III. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ZOVSKRJUMPQGAYHIWDTCFLEBXN

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA

(SZD - 3d recovered wiring 1 January 1944 to date [1944])

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors: (schematic wiring)

Blue I      A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
            A O Z P C H S G F J N B D W I L U K M X Q Y R E V T

Red II      A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z  
            Q O D G W X M C I Z K U J Y A L H F R E B P S T V N

Green III    A B C D E F G H I J K L M N / O P Q R S T U V W X Y Z  
            B H O L J M X S A W D N E F Q T K R V Y P U Z G I C

Reflector:  A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
            I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

(SZD - 3d recovered wiring 1 January 1944 to date [1944])

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors: (derived from schematic wiring)

Blue I      A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            A M B L Y T I U V R N Z X E S P G Q O D K C J W F H

Red II      A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            K M X U E D O Y S B Q G R C A P T V J W Z L I H F N

Green III    A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            Z T M P R O D I A E X N W V K H Q J F C L G B U S Y

Reflector: A Z Y X W V U T S R Q P O N M L K J I H G F E D C B  
            S O W H Y U V J A C I K Z B D E P T Q X F G L M R N

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## ENIGMA WIRINGS

Page 57

Name of Machine: SWISS ENIGMA

(Wiring specifications derived from schematic wiring)

## Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVBNML (Keyboard)

Rotors:

I. 1. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
r. AYFHNCKBUEGXZQILJRMVTS DOWP

II. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
MRNVWC PDEIAFZBULQOSKXJHYTG

III. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
SEHURIFLTJMGYPVXKWCZDNOQBA

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1. L A P Y Z H E G X C N D W V R F T Q U I J O K B M S

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
Q D B S N P Z E U C I K W T H J Y V G A L O R X F M

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
M H R J F W I A U D C V X T S K B N P Q Z O E G L Y

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors: (probable rewire)

Red r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
l. T K R J Q M F X L W Y C O B S G P U I V H E Z D N A

Blue A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I B Q G A W R O K L D P M V X T Z C E S F H J Y U N

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
C X B S U Q A G V J H W Y E D M P I F R T L O N Z K

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: NEW SWISS ENIGMA

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors: (known rewire)

Red r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
l. O U H C T R D Q I M K P G Z B V A S W X L Y E F N J

Blue A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
A L E M X I H F O J R P S K B D U W G Z Q Y N T V C

Green A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I A Z K M N X B Y E Q D F L C U O R H P V S J G T W

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA (INDIGO)

Source: 7; 9 (p. 1)

The wiring of the INDIGO cipher wheels was changed on April 7, 1943. In the INDIGO system companion messages, bearing identical numbers but sent in opposite directions, used the same wheel order and the same ring setting. This new wiring of the wheels was obtained on July 21, 1943. Efforts to apply the known wheel order and the ring setting using this wiring were unsuccessful. The problem became one of adjusting the new wiring so that it could be used with the INDIGO message indicators in subsequent solutions.

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ENIGMA WIRINGS

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Name of Machine: SWISS ENIGMA (INDIGO)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

New Brown A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
P F D J E N B Q H Z C K X R Y L O V T U A W M S G I

Relabeled A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
Brown J Q G E K F O C R I A D L Y S Z M P W U V B X N T H

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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ENIGMA WIRINGS

Name of Machine: SWISS ENIGMA (INDIGO)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
Q W E R T Z U I O A S D F G H J K P Y X C V B N M L (Keyboard)

Rotors:

Brown A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
J Q G E K F O C R I A D L Y S Z M P W U V B X N T H

Orange A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
O A N C K Y T I X V Q R Z B S F W U L M P G E J H D

Purple A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
B U A Q Y H E S P R V Z I N K D L X C T O W M J G F

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
I M E T C G F R A Y S Q B Z X W L H K D V U P O J N

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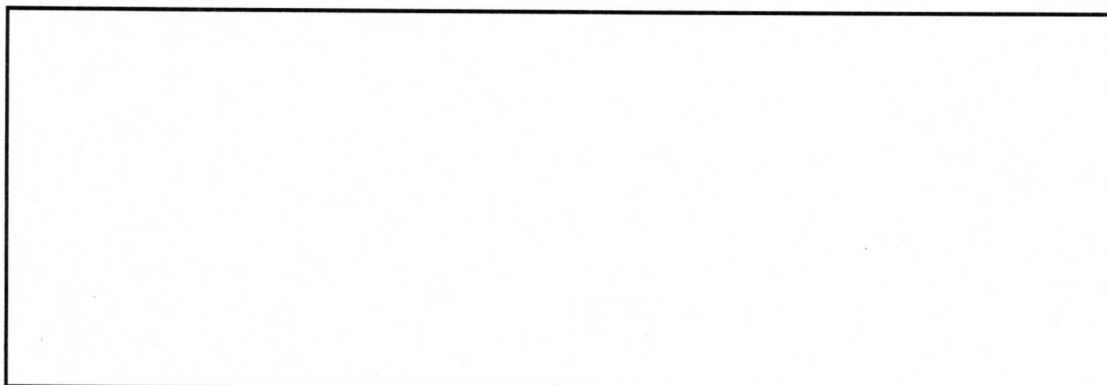
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ENIGMA WIRINGS



(b) (1)  
(b) (3) - P.L. 86-36  
(b) (3) - 50 USC 403  
(b) (3) - 18 USC 798

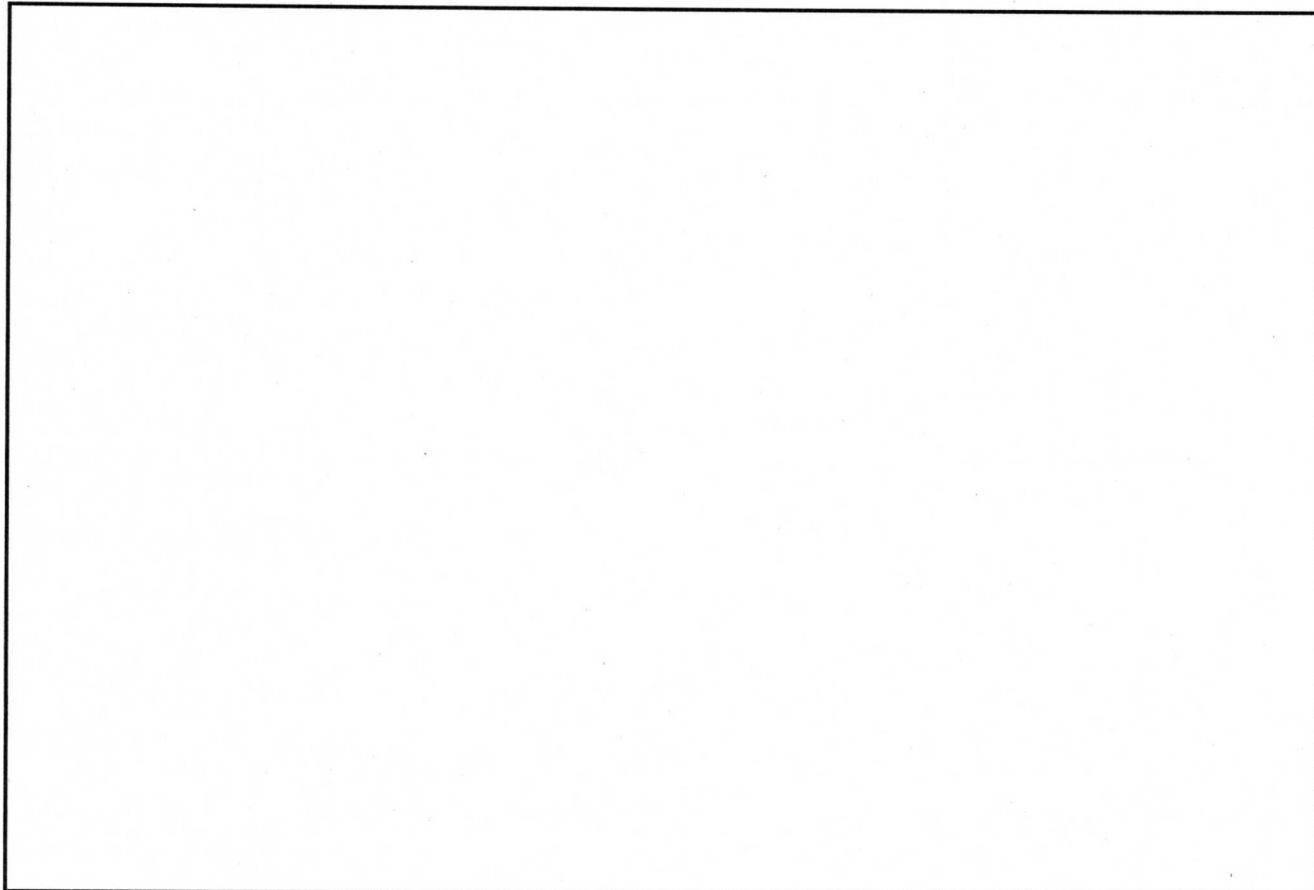
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ENIGMA WIRINGS

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(b)(1)  
(b)(3)-P.L. 86-36  
(b)(3)-50 USC 403  
(b)(3)-18 USC 798

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ENIGMA WIRINGS

Name of Machine: COMMERCIAL ENIGMA (A-827)

Source: 14

Since the A commercial Enigmas are being presented in this report in numerical order for convenience, a comment should be made here concerning the existence of the A-827. Though no wiring is given, Source states that it was rewired corresponding to the wirings of the Croatian Enigma machine which is covered along with other types of K machines.

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ENIGMA WIRINGS

Name of Machine: ENIGMA CIPHER MACHINE (A-837)

Source: 19

The A-837 Enigma was found on the premises of the CHEMNYCO Corporation, 521 Fifth Avenue, New York. It was seized by the Treasury Department 7 December 1941 for eventual retention by G-2. It is the old model four-wheel Enigma (three wheels and reflector) which indicates enciphered and deciphered letters by means of lights flashing under a keyboard arrangement. The first three wheels may be put in the machine in any order: 1, 3, 2; 2, 3, 1; 3, 2, 1; etc.

Since messages enciphered on this model passed through censorship in Germany, it was probably the only one used by German firms throughout the world. The number A-837 appeared on the box as well as on all wheels. The original wheel order as viewed by Source was 3, 1, 2. The clip settings were: wheel III: D; wheel I: A; wheel II: E; and wheel IV (Reflector): B.

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ENIGMA WIRINGS

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Name of Machine: ENIGMA CIPHER MACHINE (A-837)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1. L P G S Z M H A E O Q K V X R F Y B U T N I C J D W

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
G R H Y W P Z K F X J B N U S L I A M V P C E Q D T

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
O L H F M J G S V K N W X U D Z C A I P B Q T R E Y

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
O J N F U D H G S B Z T R C A Y X M I L E W V Q P K

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: A-1214

Source: 6k; 69

The A-1214 Enigma machine was captured by U.S. Naval Officers at Brescia in Northern Italy, and sent to Naval Communications Annex for study. It is of the commercial type, three wheels having Enigma motion and reflector settable by hand. The reflector is the same as the so-called Old Commercial reflector, but the three wheels have a new set of wirings. The notches on the wheels are in the same positions as those of the 4-J Coast Guard machine but not for the same numbered wheels.

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ENIGMA WIRINGS

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Name of Machine: A-1214

Endplate Sequence:

ABCDEFGHIJKLMNOPQRSTUVWXYZ (Endplate)  
QWERTZUIOASDFGHJKPYXCVB NML (Keyboard)

Rotors:

I. r. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1. EKWBIMSDOLCFZVHYUJAQNGRPT  
II. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
OJDVFNI BSHRKLAWZXQUPYEMGTC  
III. ABCDEFGHIJKLMNOPQRSTUVWXYZ  
BVLKUJ P QXAWMEODCNHIYFGTZSR

Y

E Wrong notches

N

Reflector: ABCDEFGHIJKLMNOPQRSTUVWXYZ  
IMETCGFRAYSQBZXWLHKDVUPOJN

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: STANDARD ARMY "A" (Machine No. A-15465)

Source: 24 (p. 9)

Two damaged wheels belonging to this machine, a No. 1 wheel and a reflector, were captured near Toulon. Numbers instead of alphabetical characters were engraved on the ring of the No. 1 wheel. The machine number on both of these wheels was A-15465. An additional red B appeared on the reflector. All wiring had been destroyed. However, a photograph of the reflector revealed white figures inked in on the pins, starting with number one, directly above the notch in the case, and proceeding in a clockwise direction to number 26. The wiring that follows is based on these figures. Investigation of available material indicated that this wiring was that of the old B reflector for the three-wheel standard Army A-machine. Source states that this reflector will not fit a four-wheel machine because the locating knobs and the positioning notch are not placed properly.

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ENIGMA WIRINGS

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Name of Machine: STANDARD ARMY "A" (Machine No. A-15465)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
"Old B" Y R U H Q S L D P X N G O K M I E B F Z C W V J A T

Notch patterns are indicated by /

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ENIGMA WIRINGS

Name of Machine: "DELTA" ENIGMA MACHINE (A-16081)

Source: 6j (p. 1-4); 14

The Delta Enigma machine was used by the German Military Attache at Zagreb. It appears to have been a standard Army Enigma, wired for special use. The wiring as given here was furnished by the TICOM Unit (SSA) in July 1945. The machine came equipped with five wheels and a reflector. Notches are at the same positions as they appear on the standard Service wheels.

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ENIGMA WIRINGS

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Name of Machine: "DELTA" ENIGMA MACHINE (A-16081)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1. C V F W J O B X A N Q T D Z U M E Y R P S K G I L H

II. A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z  
X J G U R H Z M Y D L A T W K S E P N Q Q F O I B V

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
S Y I G X E L D U K B V O A W T Z H Q N F C R M J P

IV. A B C D E F G H I J / K L M N O P Q R S T U V W X Y Z  
H K T Z D S R F W P C Q J I Y X N V M U G E L A O B

V. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z /  
W M G R K E J U A Z P T O X I N D Y B Q V H L C P S

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
D O N A J U X T Q E L K S C B Z I V M H F R Y G W P

Notch patterns are indicated by /

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ENIGMA WIRINGS

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Name of Machine: "ALPHA" ENIGMA MACHINE (A-16749)

Source: 6f (p. 1); 6g (p. 1, 2)

Two wheels (No. 2, No. 3) only of this machine were captured in Italy.

The notches are at the same positions as for the Service wheels.

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ENIGMA WIRINGS

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Name of Machine: "ALPHA" ENIGMA MACHINE (A-16749)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1.  
II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
H K Y X G R Z L S W B O A V N U F J T D M Q C I E P  
III. A B C D E / F G H I J K L M N O P Q R S T U V W X Y Z  
L R X E V N T M Y F S D I P U Z J W G C H B Q A K O

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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ENIGMA WIRINGS

Name of Machine: "S" ENIGMA (A-17245 S)

Source: 61 (p. 1, 2)

The following wiring was used in the A-17245 S Enigma, a machine apparently of the commercial type. No data was found concerning it.

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ENIGMA WIRINGS

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Name of Machine: "S" ENIGMA (A-17245 S)

Endplate Sequence:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (Endplate)  
(Keyboard)

Rotors:

I. r. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1. V E O S I R Z U J D Q C K G W Y P N X A F L T H M B

II. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
U E M O A T Q L S H P K C Y F W J Z B G V X I D N R

III. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
T Z H X M B S I P N U R J F D K E Q V C W G L A O Y

Reflector: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
C I A G S N D R B Y T P Z F U L V H E K O Q X W J M

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